

Amendments to the Claims:

Claims 1-162 (canceled)

5 163. (currently amended) A chip package comprising:
a silicon substrate comprising silicon;
a die joined with said substrate; and
an adhesive material joining a backside of said die to said silicon substrate;
a first polymer layer on a front side of said die, over a horizontal outside of said die
10 and across an edge of said die, wherein an opening in said first polymer layer exposes a
pad of said die; and
a metallization structure over said die over said first polymer layer, over said pad,
over said horizontal outside and across said edge, wherein said metallization structure
comprises an electroplated metal, and wherein said metallization structure is connected to
15 said pad through said opening.

164. (currently amended) The chip package in claim 163, wherein a cavity in said silicon
substrate accommodates said die, said adhesive material joining said backside to a bottom
of said cavity. — die having a bottom surface joined with the bottom of said cavity.

20 165. (currently amended) The chip package in claim 163, wherein said silicon substrate
has a top surface with eomprising a first region and a second region, said adhesive
material joining said backside to die joined with said first region, said horizontal outside
being over said second region not covered by said die, wherein said first region is being
25 substantially coplanar with said second region.

166. (currently amended) The chip package in claim 163, wherein said first polymer layer

comprises polyimide. an opening in said substrate accommodates said die, said substrate having a top surface substantially coplanar with a top surface of said die and a bottom surface substantially coplanar with a bottom surface of said die.

5 167. (currently amended) The chip package in claim 163, wherein said first polymer layer comprises benzocyclobutene (BCB). further comprising a polymer layer under a circuit layer of said metallization structure.

10 168. (currently amended) The chip package in claim 163 further comprising a second polymer layer on over a circuit layer of said metallization structure.

15 169. (currently amended) The chip package in claim 168, 163, wherein said second polymer layer comprises polyimide. die has a top surface at a horizontal level, said substrate being under said horizontal level, said metallization structure being over said horizontal level.

170. (currently amended) The chip package in claim 168, 169, wherein said second polymer layer comprises benzocyclobutene (BCB). top surface comprises multiple pads.

20 171. (currently amended) The chip package in claim 163 169 further comprising a passive device over said first polymer layer. horizontal level.

25 172. (currently amended) The chip package in claim 171, 163, wherein said passive device comprises an inductor. metallization structure further extends across an edge of said die and to a place not over said die.

173. (currently amended) The chip package in claim 171, 163, wherein said passive device comprises a capacitor. further comprising an adhesive tape joining said die and

~~said substrate.~~

174. (currently amended) The chip package in claim 171, 163, wherein said passive device comprises a resistor, ~~further comprising a conductive paste joining said die and~~

5 ~~said substrate.~~

175. (currently amended) The chip package in claim 163 further comprising a solder bump on ~~a pad of~~ said metallization structure, ~~wherein said bump comprises solder.~~

10 176. (currently amended) The chip package in claim 163 further comprising a gold bump on ~~a pad of~~ said metallization structure, ~~wherein said bump comprises gold.~~

177. (currently amended) The chip package in claim 163 further comprising a second polymer film layer ~~over said on said silicon substrate and at said horizontal outside,-~~

15 ~~surrounding said die wherein said first polymer layer is further on said second polymer layer and said metallization structure is further over said second polymer layer.~~

178. (currently amended) The chip package in claim 163, 177, wherein said electroplated metal film layer comprises copper, polymer.

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179. (currently amended) A chip package comprising:

~~a silicon substrate comprising silicon;~~

~~a die joined with said substrate; and~~

~~an adhesive material joining a backside of said die to said silicon substrate;~~

25 ~~a first polymer layer on a front side of said die, over a horizontal outside of said die and across an edge of said die, wherein a first opening in said first polymer layer exposes a first pad of said die, and a second opening in said first polymer layer exposes a second pad of said die; and~~

a metallization structure ~~over said die~~ over said first polymer layer, over said first and second pads, over said horizontal outside and across said edge, wherein said metallization structure comprises an electroplated metal, and wherein said metallization structure connects said first and second pads through said first and second openings.

5 comprises a metal trace connecting multiple separate pads of said die.

180. (currently amended) The chip package in claim 179, wherein a cavity in said silicon substrate accommodates said die, said adhesive material joining said backside to a bottom of said cavity. ~~die having a bottom surface joined with the bottom of said cavity.~~

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181. (currently amended) The chip package in claim 179, wherein said silicon substrate has a top surface with comprising a first region and a second region, said adhesive material joining said backside to ~~die joined with~~ said first region, said horizontal outside being over said second region ~~not covered by said die, wherein said first region is being~~ substantially coplanar with said second region.

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182. (currently amended) The chip package in claim 179, wherein said first polymer layer comprises polyimide. ~~an opening is in said substrate and accommodates said die, said substrate having a top surface substantially coplanar with a top surface of said die and a bottom surface substantially coplanar with a bottom surface of said die.~~

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183. (currently amended) The chip package in claim 179, wherein said first polymer layer comprises benzocyclobutene (BCB). ~~—further comprising a polymer layer under a circuit layer of said metallization structure.~~

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184. (currently amended) The chip package in claim 179 further comprising a second polymer layer ~~on over a circuit layer~~ of said metallization structure.

185. (currently amended) The chip package in claim 184, 179, wherein said second polymer layer comprises polyimide. ~~metal trace is used to transmit a signal~~.

186. (currently amended) The chip package in claim 184, 179, wherein said second polymer layer comprises benzocyclobutene (BCB). ~~metal trace is used to provide a power voltage~~.

187. (currently amended) The chip package in claim 179, wherein said metallization structure comprises a ground bus connecting said first and second pads through said first and second openings. ~~metal trace is used to provide a ground voltage~~.

188. (currently amended) The chip package in claim 179, wherein said metallization structure comprises a power bus connecting said first and second pads through said first and second openings. ~~die has a top surface at a horizontal level, said substrate being under said horizontal level, said metallization structure being over said horizontal level~~.

189. (currently amended) The chip package in claim 179, 188, wherein said metallization structure comprises a signal trace connecting said first and second pads through said first and second openings. ~~top surface comprises multiple pads~~.

190. (currently amended) The chip package in claim 179 188 further comprising a passive device over said first polymer layer. ~~horizontal level~~.

191. (currently amended) The chip package in claim 190, 179, wherein said passive device comprises an inductor. ~~metallization structure further extends across an edge of said die and to a place not over said die~~.

192. (currently amended) The chip package in claim 190, 179 wherein said passive device

comprises a capacitor, further comprising an adhesive tape joining said die and said substrate.

193. (currently amended) The chip package in claim 190, ~~479 wherein said passive device comprises a resistor, further comprising a conductive paste joining said die and said substrate.~~

194. (currently amended) The chip package in claim 179 further comprising a solder bump on ~~a pad of~~ said metallization structure, ~~wherein said bump comprises solder.~~

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195. (currently amended) The chip package in claim 179 further comprising a gold bump on ~~a pad of~~ said metallization structure, ~~wherein said bump comprises gold.~~

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196. (currently amended) The chip package in claim 179, ~~wherein said electroplated metal comprises copper, further comprising a film layer over said substrate and surrounding said die.~~

197. (currently amended) A chip package circuitry component comprising:

a substrate;

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a die; and

an adhesive material joining a backside of said die to said substrate;

a first polymer layer on said substrate and at a horizontal outside of said die, wherein said first polymer layer has a top surface substantially coplanar with a front side of said die;

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a second polymer layer on said front side, on said first polymer layer and across an edge of said die, wherein a first opening in said polymer layer exposes a first pad of said die, and a second opening in said polymer layer exposes a second pad of said die; and

a metallization structure over said first and second polymer layers, over said first and

~~second pads over said die and extending across said an edge of said die and to a place not over said die, wherein said metallization structure comprises an electroplated metal, and wherein said metallization structure comprises a ground bus portion connecting said first and second pads through said first and second openings. multiple separate pads of said die and used to provide a ground voltage.~~

10 198. (currently amended) The chip package circuitry component in claim 197, ~~wherein said electroplated metal comprises copper. — further comprising a substrate joined with said die.~~

199. (currently amended) The chip package circuitry component in claim 197, ~~198,~~ wherein said substrate comprises silicon.

200. (currently amended) The chip package circuitry component in claim 197, ~~198,~~ ~~wherein said first polymer layer comprises epoxy, a cavity in said substrate accommodates said die, said die having a bottom surface joined with the bottom of said cavity.~~

201. (currently amended) The chip package circuitry component in claim 197, ~~198,~~ wherein said substrate has a top surface ~~with comprising~~ a first region and a second region, said die ~~adhesive material joining said backside to joined with~~ said first region, ~~said first polymer layer being over~~ said second region ~~not covered by~~ said die, ~~wherein said first region is being~~ substantially coplanar with said second region.

202. (currently amended) The chip package circuitry component in claim 197, ~~wherein said second polymer layer comprises polyimide. — further comprising a polymer layer under a circuit layer of said metallization structure.~~

203. (currently amended) The chip package circuitry component in claim 197 further comprising a third polymer layer on over a circuit layer of said metallization structure.

204. (currently amended) The chip package circuitry component in claim 197, wherein said second polymer layer comprises benzocyclobutene (BCB). ~~— further comprising a film layer surrounding said die and under said metallization structure, wherein said film layer has a top surface substantially coplanar with a top surface of said die and a bottom surface substantially coplanar with a bottom surface of said die.~~

10 205. (currently amended) The chip package circuitry component in claim 197-204 further comprising a solder bump on said metallization structure. ~~, wherein said film layer comprises polymer.~~

15 206. (currently amended) The chip package circuitry component in claim 197 further comprising a passive device over said second polymer layer. ~~, wherein said portion comprises a ground bus.~~

20 207. (currently amended) The chip package circuitry component in claim 206, ~~197~~, wherein said passive device comprises an inductor. ~~die has a top surface with multiple pads and at a horizontal level, said metallization structure being over said horizontal level.~~

25 208. (currently amended) The chip package circuitry component in claim 206, ~~207~~ wherein said passive device comprises a capacitor. ~~further comprising a passive device over said horizontal level.~~